

Recl. 17
a processor system coupled to the first and second interfaces, the processor system comprising a single operating system for communications received at the first and the second interfaces, wherein the processor system controls operation of the first and the second interfaces and generates control messages for sending by the first and the second interfaces; and

a single platform having a communications back plane, the single housing enclosing the first interface, the second interface, and the processor system.

REMARKS

Claims 1-85 and 105-107 are pending. Claims 86-104 are subject to a restriction requirement and are withdrawn from consideration. By this amendment claims 1 and 105-107 are amended. No new matter is introduced. Reconsideration in view of the above amendments and the remarks that follow is respectfully requested.

Applicants thank Examiner Lee for the courtesies extended to Applicants' representative, John Harrop and Sean Wooden, during an April 23, 2002 personal interview. The substance of the interview is incorporated in the remarks that follow.

On page 3, the Office Action objects to claim 1 because of informalities. Claim 1 is amended to overcome this objection. Withdrawal of the objection to claim 1 is respectfully requested.

On page 4, the Office Action rejects claims 1, 12, 14-16, 18, 19, 22, 24, 25, 27-29, 32, 33, 38, 47, 54-58, 60-62, 66-68, 70, 74, 75, and 107 under 35 U.S.C. § 102(e) over U.S. Patent 5,920,822 to Houde et al. (hereafter Houde). This rejection is respectfully traversed.

Considering claims 1, 27, 47, 70, and 107, the Office Action asserts that Houde teaches a mobile switching center (specifically MSC 84) comprising a first interface, a second interface and a processing system.

Houde is directed to a system for formatting short messages in a cellular telephone network. The various components that comprise Houde's system are shown in several block diagrams, including Figure 4. However, as discussed during the personal interview, Houde does not disclose or suggest that the first interface, the second interface and the processor are arranged in a single platform having a back plane for communication. Indeed, Figure 4 illustrates that the TDMA interface 90 (2) and the CDMA interface 90 (1) are not in the housing of the MSC 84.

In contrast to Houde, claim 1 recites "a single platform having a back plane for communication, the single platform, comprising: a first interface, the first interface receiving and

sending digital messaging having a first protocol; a second interface, the second interface receiving and sending digital messaging having a second protocol; and a processor system coupled to the first and second interfaces, wherein the processor system controls operation of the first and the second interfaces and generates control messages for sending by the first and the second interfaces.” This feature is disclosed in the specification at least at page 2, lines 3-6, and page 68, line 16 – page 69, line 29 and in Figures 85 and 86.

By arranging the first and second interfaces and the processor in a single platform having a back plane for communication, Applicants have departed from industry standards in which these components are separate components that are selected to satisfy specific performance criteria, and are then connected together at a switching center. Furthermore, as attested to in the attached Declarations Under Rule 132, the use of a single platform housing for the mobile switching center departs from well-established industry standards in order to satisfy a long-felt need of a scalable architecture for small and mid-size mobile communications networks. This novel and non-obvious architectural design has proven to be extremely useful for small-and mid-size wireless networks, and has formed the basis for an extremely profitable business as attested to in the Declarations. Thus, the use of a single platform having a back plane for communication is both novel and non-obvious. Therefore, claims 1, 27, 47, and 107 are allowable. Similarly claims 105 and 106 are also allowable.

On page 10 of the Office Action, the examiner states that Applicants arguments regarding this claim element fail to comply with 37 C.F.R. § 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicants traverse this assertion on the part of the examiner for the reasons described above.

Also, on page 10 of the Office Action, the examiner asserts that, regarding claims 1, 27 and 47, “it is clear that the Houde et al. teaches the claimed subject matter in the single housing MSC. Although, the MC is not within the same physical housing MSC, it would have been obvious to one ordinary skilled to integrate the functions of the MC 86 into the MSC 84 of fig 4 for facilitate enhanced servicing.”

Applicants strongly disagree with the examiner that Houde teaches a single housing for the mobile switching center (MSC). As discussed during the personal interview, a block diagram cannot be relied upon to indicate the physical arrangement of components. At best, the block

diagram simply suggests that various components have some relationship to other components. To show the actual physical arrangement of components, the reference (in this case, Houde) would have to show in a figure, or include in the descriptive portion, the actual physical relationship between the various components. Furthermore, careful review of Houde's Figure 4 shows the block representing CDMA I/F 90(2) and the block representing TDMA I/F 90(1) to be adjacent the block representing MSC 84 and only the block representing adjunct processor 92 to be "in the single housing MSC."

Applicants also disagree with the examiner's assertion that it would have been obvious to one of ordinary skill in the art to integrate the functions of the message center (MC) and the mobile switching center (MSC) for facilitating enhanced servicing. In fact, incorporating the message center into the mobile switching center would make servicing (i.e., maintenance) more difficult in the sense that the physical housing would be more crowded, making access to components for servicing more difficult.

Based on the above remarks, Applicants assert that the subject matter of claim 1, 27, 47, and 107 is not disclosed or suggested by Houde. Accordingly, claims 1, 27, 47, and 107 are allowable. Claims 12, 14-16, 18, 19, 22, 24, and 25 depend from claim 1; claims 28, 29, 32, 33, and 38 depend from claim 27; and claims 54-58, 60-62, 66-68, 70, 74, and 75 depend from claim 47. For this reason and the additional features they recite, claims 12, 14-16, 18, 19, 22, 24, 25, 28, 29, 32, 33, 38, 54-58, 60-62, 66-68, 70, 74, and 75 are also allowable. Withdrawal of the rejection of claims 1, 12, 14-16, 18, 19, 22, 24, 25, 27-29, 32, 33, 38, 47, 54-58, 60-62, 66-68, 70, 74, 75 and 107 under 35 U.S.C. § 102(e) is respectfully requested.

On page 6, the Office Action rejects claims 2-5, 6, 7, 30, 31, 34, 35, 46, and 48-53 under 35 U.S.C. § 103(a) over Houde in view of Statutory Invention Registration No. H1,921 to Fletcher et al. (hereafter Fletcher). This rejection is respectfully traversed.

Regarding claim 7, the examiner asserts that "one of ordinary skilled would be motivated to compatible to employ known standards such as IS-634, ISDN PRI+, and proprietary protocols for interoperability." Applicants strongly disagree with the examiner's assertion. Applicants assume that the examiner is making the point that one of ordinary skill in the art would make the switching center capable of operating according to standards that are known in the industry, that is, published or publicly available standards. Claim 7 recites the switching center including ISDN PRI+ protocols and proprietary protocols. The ISDN PRI+ protocols are proprietary to

TECORE, and cannot be, as the examiner asserts, "known standards." Houde and Fletcher, individually and in combination do not disclose or suggest ISDN PRI+ protocols and proprietary protocols. Therefore, claim 7 is allowable.

Regarding independent claim 46, the examiner asserts that "it is inherent that the specific air interface protocols to be associated with it's own processing threads."

Applicants strongly disagree with the examiner's assertion. The examiner is respectfully requested to identify a specific reference to support this assertion. In the absence of such a reference, Applicants contend that claim 46 is allowable.

As noted above, claims 1, 27, 46, 47, and 107 are allowable. Claims 2-7 depend from claim 1; claims 30, 31, 34, and 35 depend from claim 27; and claims 48-53 depend from claim 47. For this reason and the additional features they recite, claims 2-7, 30, 31, 34, 35, and 48-53 are also allowable. Withdrawal of the rejection of 3-7, 30, 31, 34, 35, 46, and 48-53 under 35 U.S.C. § 103(a) is respectfully requested.

On page 7, the Office Action rejects claims 8-11, 21, 23, 36, 37, 41-45, 69, 71, 72 and 76-85 under 35 U.S.C. § 103(a) over Houde in view of U.S. Patent 5,278,890 to Besson, Jr. et al. (hereafter Beeson). This rejection is respectfully traversed.

As noted above, claims 1, 27, and 47 are allowable. Claims 8-11, 21, and 23 depend from claim 1; claims 36, 37 and 41-45 depend from claim 27; and claims 69, 71, 72, and 76-85 depend from claim 47. For this reason and the additional features they recite claims 8-11, 21, 23, 36, 37, 41-45, 69, 71, 72, and 76-85 are also allowable. Withdrawal of the rejection of 8-11, 21, 23, 36, 37, 41-45, 69, 71, 72, and 76-85 is respectfully requested.

On page 8, the Office Action rejects claims 13 and 59 under 35 U.S.C. §103(a) over Houde in view of U.S. Patent 6,188,898 to Phillips (hereafter Phillips). This rejection is respectfully traversed.

Regarding claim 13, Houde discloses that air interface independent bearer data is provided in the control message, which includes a portion formatted for each of the four different types of cellular networks supported by the air interfaces. The particular portion of the bearer data corresponding to the air interface currently being used by that addressee mobile station is processed to recover the included short message service message. This feature is clearly shown in Figure 3A of Houde. See also col. 7, line 5 to col. 8, line 23 of Houde. Figure 3B of Houde shows a similar concept where the separated bearer portions are replaced by a generic bearer

portion. In this case, the adjunct processor 92 consults the VLR/HLR to determine the correct protocol for the service message. See also col. 8, lines 24 – 39 of Houde.

In contrast to the format shown in Figures 3A and 3B of Houde, claim 13 recites a multiprotocol base station sending base station control messages to the switching center, wherein the processor system determines a protocol of a wireless communications device by interpreting protocol data contained in the base station control message. The feature of interpreting protocol data contained in the base station control message stands in contrast to the method for extracting similar information disclosed in Houde. Phillips does nothing to correct this deficiency. Accordingly, claim 13 is allowable under 35 U.S.C. § 103(a) over Houde and in view of Phillips. Claim 13 is also allowable based on its dependence on claim 1.

On page 9, the Office Action rejects claims 17, 63-65, 105 and 106 under 35 U.S.C. § 103(a) over Houde in view of U.S. Patent 5,953,331 to Duncan et al. (hereafter Duncan). This rejection is respectfully traversed.

Claim 105 is amended to recite “a single platform having a communications back plane, the single housing enclosing the first interface, the second interface, and the processor system.” Claim 106 is amended in a similar fashion. As noted above with respect to claim 1, Houde does not disclose or suggest this feature. Duncan does nothing to cure this defect in Houde. Accordingly, claims 105 and 106 are allowable.

Claim 17 depends from claim 1 and claims 63-65 depend from claim 47. As noted above, claims 1 and 47 are allowable. Accordingly, claims 17 and 63-65 are also allowable. Withdrawal of the rejection of claims 17, 63-65, 105, and 106 under 35 U.S.C. § 103(a) is respectfully requested.

Also on page 9, the Office Action rejects claims 26, 39, 40 and 73 under 35 U.S.C. § 103(a) over Houde in view of Fletcher. This rejection is respectfully traversed.

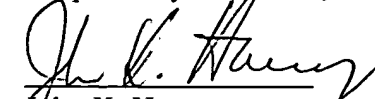
Claim 26 depends from claim 1, claims 39 and 40 depend from claim 27, and claim 73 depends from claim 47. For this reason and the additional features they recite, claims 26, 39, 40 and 73 are allowable. Withdrawal of the rejection of claims 26, 39, 40 and 73 under 35 U.S.C. § 103(a) is respectfully requested.

In view of the above amendment and remarks, Applicants assert that the application is in condition for allowance. Prompt issuance of a Notice of Allowance is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "Version with markings to show changes made."

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Respectfully submitted,



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Attachments: Petition for Extension of Time
Rule 132 Declaration of Jay Salkini
Rule 132 Declaration of Thomas Joseph

JKH/kb

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1. (Twice Amended) A switching center for a communications system that provides communications services to customers having wireless and other communications devices, comprising:

a single platform having a back plane for communication, the single platform, comprising:

a first interface, the [second] first interface receiving and sending digital messaging having a first protocol;

a second interface, the second interface receiving and sending digital messaging having a second protocol; and

a processor system coupled to the first and second interfaces, wherein the processor system controls operation of the first and the second interfaces and generates control messages for sending by the first and the second interfaces.

105. (Amended) A switching center for communication system that provides communications services to customers having wireless and other communications devices, comprising:

[the] a first interface, the first interface receiving and sending digital messaging having a first protocol;

a second interface, the second interface receiving and sending digital messaging having a second protocol, wherein the second interface comprises an asynchronous transfer mode (ATM) interface, the ATM interface providing wireless ATM communications and other packet communications; and

a processor system coupled to the first and the second interfaces, wherein the processor system controls operation of the first and the second interfaces and generates control messages for sending by the first and the second interfaces; and

a single platform having a communications back plane, the single housing enclosing the first interface, the second interface, and the processor system.

106. (Amended) A mobile switching center, comprising:

a central processor that processes incoming signals wherein the incoming signals are switched in a telecommunications network; and

a wireless interface module that supports two or more wireless protocols, wherein the wireless interface module comprises asynchronous transfer mode (ATM) interface, the ATM interface providing wireless ATM communications and other packet communications; and

a single platform having a communications back plane, the single housing enclosing the central processor and the wireless interface module.

107. (Amended) [The] A switching center for a communication system that provides communications services to customers having wireless and other communications devices, comprising:

a first interface, the first interface receiving and sending digital messaging having a first protocol;

a second interface, the second interface receiving and sending digital messaging having a second protocol; and

a processor system coupled to the first and second interfaces, the processor system comprising a single operating system for communications received at the first and the second interfaces, wherein the processor system controls operation of the first and the second interfaces and generates control messages for sending by the first and the second interfaces; and

a single platform having a communications back plane, the single housing enclosing the first interface, the second interface, and the processor system.